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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/814,337	03/21/2001	William J. Bolosky	MS1-735US	3684
22971 7590 10/29/2007 MICROSOFT CORPORATION ONE MICROSOFT WAY REDMOND, WA 98052-6399			EXAMINER GYORFI, THOMAS A	
			ART UNIT 2135	PAPER NUMBER
			NOTIFICATION DATE 10/29/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

roks@microsoft.com  
ntovar@microsoft.com  
a-rydore@microsoft.com

**Office Action Summary**

Application No.

09/814,337

Applicant(s)

BOLOSKY ET AL.

Examiner

Tom Gyorfi

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2135

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9-11 and 13-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-11 and 13-22 is/are rejected.
- 7) ☒ Claim(s) 21 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 8/7/07
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 9-11 and 13-22 remain for examination. The correspondence filed 8/7/07 amended claims 17 & 19, and added claims 21 & 22.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 8/7/07 has been considered by the Examiner.

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 17-20 have been considered but are moot in view of the new ground(s) of rejection.

### ***Allowable Subject Matter***

4. The previously indicated allowability of claims 9-11 and 13-16 is withdrawn in view of the newly discovered reference(s) to Freenet.<sup>1</sup> Rejections based on the newly cited reference(s) follow.

### ***Claim Objections***

5. Claims 21 and 22 are objected to because of the following informalities: the claims status for these claims is listed as "Previously presented"; however, these claims did not exist prior to the amendment of 8/7/07. Appropriate correction is required.

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<sup>1</sup> Examiner has discovered that the copy of the Freenet reference provided in the Office Action of 3/14/05 may be an updated revision published after the priority date of the instant application (see references #7, #14, & #21 on pages 20-21). Please refer to the newly provided copy of the Freenet reference enclosed herein, whose publication date can be affirmatively established as July 1, 2000.

***Claim Rejections - 35 USC § 103***

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 9-11 and 13-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howard (U.S. Patent 6,098,079) and further in view of "Freenet: A Distributed Anonymous Information Storage and Retrieval System" (hereinafter, "Freenet").

Regarding claims 9 and 13:

Howard discloses a method and computer readable medium for use in a distributed file system comprising: modifying one or more of the files (col. 3, lines 25-30); computing a hash value of each modified file (col. 3, lines 30-40); and collecting the hash values into a group (the journal file: Ibid).

Howard does not explicitly disclose wherein the files are encrypted, nor that a hash value of the group is computed and digitally signed. However, it observed that the journal(s) maintained by Howard are files as well (col. 3, lines 25-30); furthermore, Freenet discloses an analogous distributed file system wherein files are hashed and digitally signed (pages 9-10, "5. Naming, searching, and updating"), and that the files on said file system are encrypted (page 7, "3.3 Managing Data", last paragraph). It would have been obvious to one of ordinary skill in the art at the time the invention was made to hash and sign the journal file of the Howard invention, and to operate on encrypted files. The motivations for doing so would be to prevent unauthorized users from

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tampering with a file to deny other users from accessing it, and also to provide deniability for legal reasons (Ibid; see also the second and third bullet points on page 2).

Regarding claim 14:

Howard discloses a computer readable medium causing a computing device to: modify individual files stored in a serverless distributed file system (col. 3, lines 25-30); compute a hash value of each modified file (col. 3, lines 30-40); and collect the hash values into a group (the journal file: Ibid).

Howard does not disclose digitally signing the group of hash values. However, it is observed that the journal(s) used by Howard are themselves files (col. 3, lines 25-30); furthermore, Freenet discloses an analogous serverless distributed file system wherein files are digitally signed (pages 9-10, "5. Naming, searching, and updating"). It would have been obvious to one of ordinary skill in the art at the time the invention was made to sign the journal file of the Howard invention. The motivation for doing so would be to prevent unauthorized users from tampering with a file to deny other users from accessing it (Ibid; see also the third bullet point on page 2).

Regarding claims 17 and 19:

Howard discloses a method (and computer readable medium) comprising: storing representations of modifications made to multiple files stored in a distributed file system such that each modification has a corresponding said representation (col. 4,

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lines 25-45); and a representation of a collection of the representations of modifications (the journal file, Figure 3; col. 4, lines 45-60).

Howard does not explicitly recite a digital signature covering at least part of the representations to indicate that the modifications were made by a user with the signature. However, Freenet discloses a serverless distributed file system wherein a user creates a digital signature covering at least part of the representations of an updated file(s) to indicate that the modifications were made by said user (pages 9-10, "5. Naming, searching, and updating"). It would have been obvious to one of ordinary skill in the art at the time the invention was made for a user to sign the changes made to files in a distributed file system. The motivation for doing so would be to prevent unauthorized users from tampering with a file to deny other users from accessing it (Ibid; see also the third bullet point on page 2).

Regarding claims 10 and 15:

Howard further discloses wherein the modified file<sup>2</sup> includes a metadata stream containing a header and an indexing structure, the indexing structure including hashes of the files, and a structure to access the hashes of files, the computing a hash value of each modified file further comprising deriving a hash of the header and at least part of the structure (Figures 3-6; col. 5, lines 1-60)

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<sup>2</sup> Including encrypted files when combined with Freenet, as per the rejection of claim 9.

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Regarding claims 11 and 16:

Howard further discloses wherein the modified file<sup>3</sup> includes a metadata stream containing a header, per user information, and an indexing tree, the indexing tree including hashes of files, and a root node, the computing a hash value of each modified file further comprising hashing as a single the header, the per user information, and the root node (Ibid).

Regarding claims 18 and 20:

Howard further discloses wherein the representations comprise hashes of data in each file that is affected by the modifications (Figure 5; col. 5, lines 15-20).

Regarding claims 21 and 22:

Freenet further discloses wherein the representation of the collection comprise a hash of the representations of the modifications (page 9, "5. Naming, searching, and updating", 2<sup>nd</sup> paragraph).

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom Gyorfí whose telephone number is (571) 272-3849. The examiner can normally be reached on 8:30am - 5:00pm Monday - Friday.

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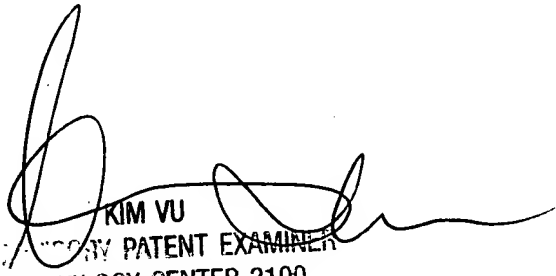
<sup>3</sup> See footnote 2.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TAG  
10/16/07

  
KIM VU  
SUPERVISORY PATENT EXAMINER  
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